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Title (type in CAPITAL LETTERS): **THE DIAGNOSTIC VALUE OF POWER DOPPLER TO PREDICT HISTOLOGICAL COMPOSITIONS IN BENIGN PROSTATIC HYPERPLASIA**

AIMS OF STUDY

Recently Power Doppler is used to distinguish prostatic cancer from benign prostatic hyperplasia. The objective of this study is the availability of Power Doppler to predict histological compositions in benign prostatic hyperplasia.

MATERIALS AND METHODS

Thirteen patients were studied. Preoperatively, Power Doppler imaging analysis was performed using ultrasonic diagnostic equipment (SSA 380A, TOSHIBA, Japan) with a transrectal probe. Pulsatile blood flows were detected in all patients and calculate the resistive index (RI). Tissues obtained from 13 patients undergoing transurethral resection, suprapubic prostatectomy or radical cystectomy, were analyzed by quantitative morphometry. Computer image analyses were used to determine the mean area densities of the smooth muscle (SM), connective tissue (CT), glandular epithelium (E), lumen (L) and vascular lumen (V).

RESULTS

Pathological findings represent 3 normal prostate, 9 benign hyperplasia and 1 leiomyoma. The proportions of each histological component are shown in Table 1. Relationships between morphological findings and RI are shown in Table 2. It demonstrated that the increasing grandular component increases RI.

CONCLUSION

The present study demonstrates that Power Doppler is useful to predict the component of prostate.

Table 1. Histological composition of the respective component of patients

	Area density, %				
Patients	SM	CT	E	L	V
BPH (n=9)	25.6±1.8	30.5±3.0	15.1±1.9	16.0±3.3	7.5±1.1
Normal (n=3)	41.3±3.0	35.4±5.2	6.3±1.8	3.0±1.0	7.0±0.4
Leiomyoma (n=1)	59.5	29.0	0	0	2.2

Table 2. Correlation between relative volume of each histological component and resistive index (RI).

	resistive index (RI)	
Tissue elements	R	p value
Stromal component	-0.796	0.0011
Smooth muscle	-0.537	0.0718
Fibrous tissue	-0.717	0.0068
Glandular component	0.688	0.0114
Glandular epithelium	0.634	0.0249
Glandular lumen	0.627	0.0272
Vascular lumen	0.428	0.1698